

WARM UP:

1) Harley Davidson motorcycles make up a large percentage of all motorcycles registered in the US. A researcher interviews a random sample of 600 motorcycle owners and finds that 382 of them have Harleys. Estimate the true % of Harleys using 98% confidence.

$$\hat{p} = \frac{382}{600} = 0.637$$

2) Write hypotheses for the following:

It has long been said that you should tip 20% when you go to a restaurant. However a researcher thinks that since the economy is doing poorly, people are tipping less now. He wants to test this theory.

$$H_0: p = 0.20$$

$$H_a: p < 0.20$$

$$① \quad 0.637 \pm 2.326 \sqrt{\frac{(0.637)(0.363)}{600}}$$

$$0.637 \pm 0.0457$$

$$② \quad (0.5913, 0.6827)$$

③ We are 98% conf. that the true % of people who own Harleys is btw 59.13% and 68.27%.

HW:

p. 452

33) $H_0: p = 75\%$
 $H_a: p < 75\%$

34) $H_0: p = 12\%$
 $H_a: p \neq 12\%$

p. 466

61) (a) $p =$ % of people with body temps lower than 98.6°

(b) $H_0: p = 0.50$
 $H_a: p > 0.50$